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Surveillance of antimicrobial consumption and resistance in Danish mink

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Only few antimicrobial compounds are registered to mink and today there are no general treatment guidelines. This might lead to suboptimal treatment of the animals and consequently, issues might arise regarding animal welfare, skin quality and the emergence of antimicrobial resistance.

Here we present data on ten years antimicrobial consumption alongside the resistance patterns in pathogenic bacteria in Danish mink.

The consumption of antimicrobials increased from 2007 to 2012, and has since fluctuated at relatively high levels. Further, the monthly drifts in amounts and compounds were analyzed. A characteristic pattern appears, e.g. high aminopenicillin consumption in May, as the kits are being weaned.

Overall, aminopenicillin is the most prescribed antimicrobial compound followed by tetracyclines and macrolides, to which pathogenic bacteria in general showed the highest resistant levels.

Antimicrobial resistance was recorded in many pathogens. *E. coli* showed high levels of resistance to ampicillin. About half of the *Staphylococcus* spp. was resistant to tetracyclines. The *Streptococcus* spp. showed high levels of resistance to tetracyclines and the macrolide, erythromycin.

Conclusion

The consumption of antimicrobials in the Danish mink production has been fluctuating at high levels the past years. Resistance to the most consumed antimicrobials was found in the bacterial pathogens isolated from mink. These findings underline the necessity for treatment guidelines and antimicrobial stewardship for fur animal production, to optimize and ensure future prudent use of antimicrobials.